

North End Composites)	Department
Knox County)	Findings of Fact and Order
Rockland, Maine)	Part 70 Air Emission License
A-658-70-A-I)	

After review of the Initial Part 70 License application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A, Section 344 and Section 590, the Department finds the following facts:

I. Registration

A. Introduction

FACILITY	North End Composites
LICENSE NUMBER	A-658-70-A-I
LICENSE TYPE	Initial Part 70 License
NAICS CODES	3261, 336612
NATURE OF BUSINESS	Composite Fabrication
FACILITY LOCATION	Rockland, Maine
DATE OF LICENSE ISSUANCE	August 14, 2000
LICENSE EXPIRATION DATE	August 14, 2005

B. Emission Equipment

The following emission units are addressed by this Part 70 License:

EMISSION UNIT ID	UNIT CAPACITY	UNIT TYPE
Composite Fabrication	Fugitive VOC	Process Equipment

C. Insignificant Activities

The boilers, designated as emission units #1 and #2 in air emission license A-658-74-A-N, have a maximum design heat input capacity of 1.5 MMBtu/hr each, firing #2 fuel oil. Under the rules of Chapter 115 of the Department's regulations, these emission units were included in the Chapter 115 air emission license and subsequently had short-term emission limits and a maximum fuel use limit. However, for this initial Title V license, these units can be considered as "insignificant activities" per Chapter 140 Appendix B Section B(6) due to the relatively small size of each one.

North End Composites has additional insignificant activities which do not need to be listed in the emission equipment table above. However, these insignificant activities must meet any applicable regulations.

D. Application Classification

The application for NEC does not include the licensing of increased actual or licensed allowed emissions, however, emission factors for estimating VOC emissions have been modified to reflect the new emission factors recently developed by the Composites Fabricators Association (CFA), the National Marine Manufacturing Association (NMMA), and the United States Environmental Protection Agency (USEPA). These factors have been deemed more accurate in calculating emissions of styrene from the gelcoat and resin application process than previous factors. This application does not include the installation of new or modified equipment, therefore the license is considered to be an Initial Part 70 License issued under Chapter 140 for a Part 70 source. NEC emits more than 10 tons per year of a single hazardous air pollutant and is therefore classified as a major source.

E. General Facility Requirements

NEC is subject to the regulations listed below, in addition to the regulations listed for specific units as described in Section II of this license.

CITATION	REQUIREMENT SUMMARY
Chapter 101	Visible Emissions Regulation
Chapter 105	General Process Source Particulate Emission Standard
Chapter 106	Low Sulfur Fuel
Chapter 109	Emergency Episode Regulation
Chapter 110	Ambient Air Quality Standard
Chapter 114	Classification of Air Quality Control Regions
Chapter 116	Prohibited Dispersion Techniques
Chapter 137	Emission Statements
Chapter 140	Part 70 Air Emission License Regulations

II. EMISSION UNIT DESCRIPTION

A. Process Description

For licensing purpose of this Title V application the manufacturing process at NEC has been divided into the following phases: hull mold construction,

fiberglass/carbon lamination and gelcoat application; grinding, sanding, and buffing; and mill shop operations.

Hull Mold Construction

As an initial step, NEC fabricates the hull, deck, or other part molds. This usually involves building a prototype (pattern or plug) out of foam, wood, or plastic. The mold is then constructed of fiberglass and gelcoat. Once the mold is complete, it can be used in the fabrication of many parts.

Fiberglass/Carbon Lamination and Gelcoat Application

The manufacturing of fiberglass parts at NEC usually follows the open contact molding method. This portion of NEC's overall process utilizes unsaturated polyester and vinylester resins and gelcoats and is responsible for the majority of emissions. The unsaturated thermosetting resins contain styrene monomer as a crosslinking agent, which partially volatilizes during application and curing.

Also, NEC recently started using an infusion molding process (SCRIMP). There are no exposed resins in this closed-molding process, thus VOC emissions are greatly reduced. With increasing customer acceptance, it is believed the SCRIMP method will become more widespread in the future.

Grinding, Sanding and Buffing

Grinding, sanding, and buffing of fiberglass surfaces, molds and patterns are performed at NEC. There are minor VOC and HAP emissions from this process from the use of cleaning solvents and occasional touch up/repair/spray operations.

Mill Shop Operations

The mill shop fabricates the components of the mold patterns and any interior components of assemble parts. The VOC emissions from these operations are limited to the intermittent use of cleanup, patching, or adhesive materials.

VOC Emission Sources / BPT for VOC Control

NEC was issued Air Emission License A-658-74-A-N on June 4, 1996 which incorporated requirements of Best Available Control Technology (BACT). The BACT findings in Air Emission License, A-658-74-A-N, will be incorporated as a BPT analysis into this initial Part 70 license.

The Fiberglass Department is responsible for the majority of VOC emissions and hazardous air pollutants (HAP). Styrene emissions, considered a HAP, are attributed to evaporation of resin or gelcoat overspray and vaporization from the applied resin or gelcoat prior to polymerization. NEC is classified as a major source and subject to Part 70 due to emitting a “single” HAP, styrene emissions, over 10 tons per year.

Due to polymerization of the styrene monomer, not all of the VOC/HAP as delivered is volatilized or emitted. NEC shall calculate styrene emissions from resin and gelcoat application processes using the Unified Emission Factor (UEF) estimation models for open molding of composites which is based on a compilation of research conducted by the Composites Fabricators Association (CFA), the National Marine Manufacturing Association (NMMA), and the United States Environmental Protection Agency (USEPA). The model contains emission factors presented in a document published by the CFA entitled “Technical Discussion of the Unified Emission Factors for Open Molding of Composites” and dated April 7, 1999. These factors are to be used until the Department determines other factors are applicable. For the purpose of this VOC BPT, the styrene emissions from resin and gelcoat application processes shall be estimated as noted in Condition (26).

NEC proposes to address state and applicable requirements by limiting total VOC emissions to 48 tons per year. This limit is an increase from NEC’s previous limit of 39 tons per year, since using the new UEF factors has increased estimated VOC emissions although the type and quantity of chemicals has remained the same. For consistency with the previous air license, the 48 tons per year limit is based on a “three-shift” operation taking into account what is emitted currently under one shift, with actual emissions reported approximately 16 tpy.

The following determinations meet BPT for this initial Part 70 license:

- NEC shall not emit more than 48 tons/year, on a 12 month rolling total, of combined VOC emissions from all of the departments that make up the composite fabrication process, based on the mass balance equation and UEF model as specified in the compliance plan.
- NEC shall continue research and manufacturing test trials of pollution prevention technologies (low styrene resins, closed mold system, etc.)
- NEC shall continue to use HVLP spray guns for the application of more than 5 gallons of gelcoats, and mechanical non-atomized or manual application techniques for the application of more than 5 gallons of resins.

Periodic Monitoring for VOC and HAP

To determine compliance with the BPT findings in this Title V license, NEC shall record on a monthly basis raw material purchases containing VOC and HAPs. Due to NEC's short inventory turnover period, resulting in a relatively constant inventory level, raw materials will be considered used during the month they are purchased. With the exception of styrene emissions from gelcoats, resins, and putties, the following equations will be used to calculate VOC and HAP emissions on a twelve-month rolling total basis:

$$\begin{aligned} \text{VOC Emissions} &= (\text{Monthly Product Purchases} \times \% \text{VOC}) - (\text{Monthly Hazardous Waste Removed from Site} \times \% \text{VOC}) \\ \text{HAP Emissions} &= (\text{Monthly Product Purchases} \times \% \text{HAP}) - (\text{Monthly Hazardous Waste Removed from Site} \times \% \text{HAP}) \end{aligned}$$

Styrene emissions from the application of gelcoats, resins, and putties will be estimated on a twelve month rolling total basis using the aforementioned UEF model for open molding of composites.

Operational Flexibility

Chapter 140 incorporates provisions to ensure that companies in Maine have the maximum operational flexibility to take advantage of changing market conditions. NEC's process is continually adapting to meet customer demands and a flexible Chapter 140 permit is necessary to ensure a competitive market position.

Given NEC's continuously changing process, combining all operations and facility wide license conditions has proven to be the most effective strategy. The following terms for reasonably anticipated alternative operating scenarios will be included in this Title V license:

- 1) The products/chemicals associated with each phase of the boat manufacturing are included in the Title V application form. These products are representative of NEC's annual chemical usage but do not comprise a complete list of all potential products required by NEC in the composites fabrication manufacturing process. Therefore, product interchanging as necessary is allowed without triggering reporting or additional licensing as long as NEC abides by all State and Applicable requirements.
- 2) Currently, NEC's business is comprised of the manufacturing of boats. However, if during the term of this license market demands or opportunities are identified in manufacturing other composites items, NEC shall not be restricted to boat manufacturing as long as NEC complies with all State and Applicable regulations.

In addition, Chapter 140 states that insignificant activities and modifications to insignificant activities that remain insignificant will not require notification to the Department. NEC has identified all current insignificant activities in Section C of the Title V application, however, it is reasonable to assume that NEC may add additional insignificant activities without notification to the Department.

B. Facility Emissions

The total facility emissions from North End Composites of Rockland consist of only the process VOC emissions from the composites fabrication operations.

Total Allowable Annual Emissions for the Facility (used to calculate the annual license fee)

<u>Pollutant</u>	<u>TPY</u>
PM	N/A
PM ₁₀	N/A
SO ₂	N/A
NO _x	N/A
CO	N/A
VOC	48.0

Note: All boilers and other processes are considered insignificant due to their size, therefore, all criteria pollutant emissions are not applicable except for VOC from the process.

III. AIR QUALITY ANALYSIS

According to Chapter 140 of the Department's regulations, an existing Part 70 source shall be exempt from an impact analysis with respect to a regulated pollutant whose allowable emissions do not exceed the following:

<u>Pollutant</u>	<u>Tons/year</u>
PM	25
PM ₁₀	25
SO ₂	50
NO _x	100
CO	250

Based on facility license allowed emissions, NEC is below the emissions level required for modeling.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that emissions from this sources:

- will receive Best Practical Treatment;
- will not violate applicable emissions standards
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants the Part 70 License A-658-70-A-I, subject to the following conditions:

For each standard and special condition which is state enforceable only, state-only enforceability is designated with the following statement: **Enforceable by State-only.**

STANDARD CONDITIONS

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emission units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions and this license;
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 140;
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both;
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive

dust, and shall submit a description of the program to the Department upon request; **Enforceable by State-only**

- (5) The licensee shall pay the annual air emissions license fee to the Department, calculated pursuant to Title 38 MRSA §353;
- (6) The Part 70 license does not convey any property rights of any sort, or any exclusive privilege;
- (7) The licensee shall maintain and operate all emission units and air pollution control systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions; **Enforceable by State-only**
- (8) The licensee shall maintain sufficient records, to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request or in accordance with other provisions of this license;
- (9) The licensee shall comply with all terms and conditions of the air emission license. The submission of notice of intent to reopen for cause by the Department, the filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for the renewal of a Part 70 license or amendment shall not stay any condition of the Part 70 license.
- (10) All terms and conditions are enforceable by EPA and citizens under the CAA unless specifically designated as state enforceable.
- (11) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license;
- (12) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
 - (a) perform stack testing under circumstances representative of the facility's normal process and operating conditions:
 - (i) within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters,

staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions;

(ii) to demonstrate compliance with the applicable emission standards; or

(iii) pursuant to any other requirement of this license to perform stack testing.

(b) install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emissions testing; and

(c) submit a written report to the Department within thirty (30) days from the date of test completion.

Enforceable by State-only

(13) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicates emissions in excess of the applicable standards, then:

(a) within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and

(b) the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and

(c) the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

Enforceable by State-only

- (14) Notwithstanding any other provision in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement.
- (15) Compliance with the conditions of this Part 70 license shall be deemed compliance with any Applicable requirement as of the date of license issuance and is deemed a permit shield, provided that:
- (a) Such Applicable and state requirements are included and are specifically identified in the Part 70 license, except where the Part 70 license term or condition is specifically identified as not having a permit shield; or
 - (b) The Department, in acting on the Part 70 license application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the Part 70 license includes the determination or a concise summary, thereof.

Nothing in this section or any Part 70 license shall alter or effect the provisions of Section 303 of the CAA (emergency orders), including the authority of EPA under Section 303; the liability of an owner or operator of a source for any violation of Applicable requirements prior to or at the time of permit issuance; or the ability of EPA to obtain information from a source pursuant to section 114 of the CAA.

- (16) The licensee shall retain records of all required monitoring data and support information for a period of at least six (6) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the Part 70 license.
- (17) The licensee shall maintain records of all deviations from license requirements. Such deviations shall include, but are not limited to malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emission unit itself that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next working day, whichever is later, of such occasions and shall report the probable cause, corrective action, and any excess emissions in the units of the applicable emission limitation;

- (18) Upon the written request of the Department, the licensee shall establish and maintain such records, make such reports, install, use, and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status.
- (19) The licensee shall submit quarterly reports of any required monitoring. All instances of deviations from Part 70 license requirements must be clearly identified in such reports. All required reports must be certified by a responsible official.
- (20) The licensee shall submit a compliance certification to the Department and EPA at least annually, or more frequent if specified in the Applicable requirement by the Department. The compliance certification shall include the following:
- (a) The identification of each term or condition of the Part 70 license that is the basis of the certification;
 - (b) The compliance status;
 - (c) Whether compliance was continuous or intermittent;
 - (d) The method(s) used for determining the compliance status of the source, currently and over the reporting period; and
 - (e) Such other facts as the Department may require to determine the compliance status of the source;
- (21) The Part 70 license shall be reopened for cause by the Department or EPA, prior to the expiration of the Part 70 license, if:
- (a) Additional Applicable requirements under the CAA become applicable to the Part 70 major source with a remaining Part 70 license term of 3 or more years. However, no opening is required if the effective date of the requirement is later than the date on which the Part 70 license is due to expire, unless the original Part 70 license or any of its terms and conditions has been extended pursuant to Chapter 140;
 - (b) Additional requirements (including excess emissions requirements) become applicable to the Title IV source under the acid rain program. Upon approval

by EPA, excess emissions offset plans shall be deemed to be incorporated into the Part 70 license;

(c) The Department or EPA determines that the Part 70 license contains a material mistake or that inaccurate statements were made in establishing the emission standards or other terms of conditions of the Part 70 license; or

(d) The Department or EPA determines that the Part 70 license must be revised or revoked to assure compliance with the Applicable requirements.

The licensee shall furnish to the Department within a reasonable time any information that the Department may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the Part 70 license or to determine compliance with the Part 70 license.

(22) No license revision or amendment shall be required, under any approved economic incentives, marketable licenses, emissions trading and other similar programs or processes for changes that are provided for in the Part 70 license.

SPECIAL CONDITIONS

(23) Permit Shield for Non-Applicable Requirements

The following requirements have been specifically identified as not applicable based upon information submitted by the licensee.

SOURCE	CITATION	DESCRIPTION	BASIS FOR DETERMINATION
Boilers	40 CFR Part 60 Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	All boilers at NEC are below a maximum design heat input capacity of 10 MMBtu/hr.
Facility	40 CFR Part 63, Subpart II	NESHAP for Shipbuilding and Ship Repair	This facility manufactures pleasure crafts and is therefore not considered a "ship builder" as defined by 40 CFR § 63.782
Facility	Chapter 129	Surface Coating Facilities	NEC does not surface coat cans, fabric, vinyl, metal furniture, or miscellaneous metal parts.
Facility	Chapter 134	VOC RACT	Facility was subject to a BACT determination for VOC which was at least as stringent as Chapter 134 VOC RACT.
Facility	Chapter 138	NO _x RACT	Facility, at full load, does not have the potential to emit more than 99.9 tons of NO _x per year.

(24) NEC is not subject to 40 CFR Part 63 Subpart JJ "NESHAP for Wood Furniture Manufacturing Operations" since the facility is not primarily engaged in the manufacture of wood furniture and uses no more than 100 gallons per month of

finishing material or adhesives in the manufacturing of wood furniture components. NEC shall keep track of chemical usage to assure that the facility is below the NESHAP applicability threshold.

- (25) NEC is subject to the following Department Regulations:

CITATION	REQUIREMENT SUMMARY
Chapter 101	Visible Emissions Regulation
Chapter 105	General Process Source Particulate Emission Standard
Chapter 106	Low Sulfur Fuel
Chapter 109	Emergency Episode Regulation
Chapter 110	Ambient Air Quality Standard
Chapter 114	Classification of Air Quality Control Regions
Chapter 116	Prohibited Dispersion Techniques
Chapter 137	Emission Statements
Chapter 140	Part 70 Air Emission License Regulations

- (26) Process Emissions

NEC shall not emit more than 48 tons/year, on a 12 month rolling total basis, of combined VOC and HAP emissions from all of the departments that make up the composites fabrication process, based on chemical purchases as specified in Condition (26).

- (27) To ensure compliance with periodic monitoring as required for BPT per Chapter 140, NEC shall record on a monthly basis raw material purchases, which contain VOC and HAPs. The raw materials will be considered used during the month they are purchased. Except for styrene emissions from the application of gelcoat, resin, or putties, the following equations will be used to calculate VOC and HAP emissions on a twelve month rolling total basis:

$$\begin{aligned}\text{VOC Emissions} &= (\text{Monthly Product Purchases} \times \text{\%VOC}) - (\text{Monthly Hazardous Waste Removed from Site} \times \text{\%VOC}) \\ \text{HAP Emissions} &= (\text{Monthly Product Purchases} \times \text{\%HAP}) - (\text{Monthly Hazardous Waste Removed from Site} \times \text{\%HAP})\end{aligned}$$

NEC shall calculate styrene emissions from the application of gelcoats, resins, and putties, annually as reported in SARA III TRI report, using the UEF model for open molding of composites. Compliance shall be demonstrated, upon request by the Department, for the previous 12 month period up to the time of any compliance inspection.

- (28) To ensure compliance with Chapter 140 BPT for VOC control, NEC shall continue research and manufacturing test trials of pollution prevention technologies (low styrene resins, closed mold system, etc.) An annual report shall be sent to the Department by January 31st documenting the research and test trial results for the previous year.
- (29) NEC shall develop and implement a procedure to promote “good housekeeping” practices (close lids, proper storage of open containers, etc.) and ensure that all VOC materials are handled properly to minimize emissions. NEC shall ensure that all VOC containers are properly sealed when not in immediate use, and that all VOC containers are handled in a manner to reduce the chance of spills. NEC shall conduct self-inspections of each area as needed to minimize emissions and provide this log upon request of the Department.
- (30) NEC shall continue to use airless spray guns for the application of more than 5 gallons of gelcoats and mechanical non-atomized or manual application techniques for the application of more than 5 gallons of resins.
- (31) NEC shall install particulate filters on all forced ventilation points that are located adjacent or above the sanding, cutting and finishing. NEC shall properly maintain all dust collection equipment in the facility and make repairs as necessary to prevent system leakage. NEC shall conduct self-inspections of each area as needed to minimize emissions. The facility will meet the requirements of Chapter 101 “Visible Emissions Regulation” by maintaining opacity to below 20% on a six minute block average basis for all general process fugitive emissions.
- (32) **Semiannual Reporting**
The licensee shall submit semiannual reports every six months to the Bureau of Air Quality. The initial semiannual report is due July 31, 2000, 30 days from the end of the second calendar quarter.
- A. Each semiannual report shall include a summary of the periodic monitoring required by this license.
 - B. All instances of deviations from license requirements and the corrective action taken must be clearly identified and provided to the Department in summary form for each six-month interval.
[MEDEP Chapter 140]
- (33) **Annual Compliance Certification**
The licensee shall submit an annual compliance certification to the Department and EPA in accordance with Condition (20) of this license. The initial annual compliance certification is due January 30, 2001, 30 days from the end of the fourth calendar quarter. The annual compliance certification shall be submitted

North End Composites
Knox County
Rockland, Maine
A-658-70-A-I

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Department
Findings of Fact and Order
Part 70 Air Emission License

with the second semiannual report after the signature date of this license.
[MEDEP Chapter 140]

(34) **Annual Emission Statement**

The licensee shall annually report to the Department, in a specified format, fuel use, operating rates, use of materials and other information necessary to accurately update the State's emission inventory. [MEDEP Chapter 137]

(35) **Certification by a Responsible Official**

All documents and reports (including semiannual reports and annual compliance certifications) required by this license to be submitted to the Bureau of Air Quality must be signed by a responsible official. [MEDEP Chapter 140]

(36) The term of this license shall be five (5) years from the signature date below.

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF 2000.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
MARTHA G. KIRKPATRICK, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application October 27, 1997

Date of application acceptance October 27, 1997

Date filed with Board of Environmental Protection _____

This Order prepared by Edwin L. Cousins, Bureau of Air Quality